

IN THE CLAIMS:

- 1 1. (Currently Amended) An integrated circuit comprising:
2 a power supply I/O pad;
3 an I/O pad of a first type made of a deposited conductor, wherein each of the power
4 supply I/O and I/O pads has a pad area allocated for it, wherein the power supply I/O pad
5 occupies its allocated pad area but the I/O pad occupies less than its allocated pad area, and
6 wherein the I/O pad of the first type is connected to a first point on an integrated circuit; and
7 a strip of deposited conductor located alongside substantially adjacent to the I/O pad of
8 the first type in an unoccupied part of its allocated pad area, wherein the strip of deposited
9 conductor is connected to a second point on the integrated circuit, and wherein the I/O pad of the
10 first type is narrower than the power supply I/O pad so as in order to allow space make room for
11 the strip.
- 1 2. (Currently Amended) The integrated circuit of claim 1, wherein the I/O pad of the first
2 type is ~~selected from a group consisting of a data I/O pad and or~~ a multi-level voltage I/O pad.
- 1 3. (Original) The integrated circuit of claim 1, wherein the first point on the integrated
2 circuit is further connected to a circuitry.
- 1 4. (Original) The integrated circuit of claim 1, wherein the first point on the integrated
2 circuit is further connected to a power bus.
- 1 5. (Original) The integrated circuit of claim 1, wherein the second point on the integrated
2 circuit is further connected to a circuitry.
- 1 6. (Original) The integrated circuit of claim 1, wherein the second point on the integrated
2 circuit is further connected to a power bus.
- 1 7. (Currently Amended) The integrated circuit of claim 1, wherein the strip of conductor is
2 connected to a third point on the integrated circuit.

1 8. (Original) The integrated circuit of claim 7, wherein the second and third points on the
2 integrated circuit are connected to a circuitry.

1 9. (Original) The integrated circuit of claim 7, wherein the second and third points on the
2 integrated circuit are connected to a power bus.

1 10. (Currently Amended) The integrated circuit of claim 1, further comprising an I/O pad of
2 a second type made of a deposited conductor and occupying an area smaller than its
3 allocated pad area in order to make room for another strip, wherein the I/O pad of the
4 second type is connected to a third point on the integrated circuit.

1 11. (Currently Amended) The integrated circuit of claim 10, wherein the I/O pad of the
2 second type is ~~selected from a group consisting of a data I/O pad and or~~ a multi-level voltage
3 I/O pad.

1 12. (Original) The integrated circuit of claim 10, wherein the third point on the integrated circuit
2 is further connected to a circuitry.

1 13. (Original) The integrated circuit of claim 10, wherein the third point on the integrated circuit
2 is further connected to a power bus.

1 14. (Currently Amended) The integrated circuit of claim 10, wherein the other strip ~~of deposited~~
2 ~~conductor~~ is connected to a fourth point on the integrated circuit.

1 15. (Original) The integrated circuit of claim 14, wherein the second, third and fourth points on
2 the integrated circuit are connected to a circuitry.

1 16. (Original) The integrated circuit of claim 14, wherein the second, third and fourth points on
2 the integrated circuit are connected to a power bus.

1 17. (Currently Amended) The integrated circuit of claim 1, wherein the I/O pad of the first
2 type provides ~~power~~ data or a voltage level to a core circuitry.

1 18. (Currently Amended) The integrated circuit of claims 4, wherein the power bus is
2 configured as an intersecting grid of a deposited conductor.

1 19. (Original) The integrated circuit of claim 18, wherein the integrated circuit is comprised of
2 multiple metal layers, and wherein the I/O pad of the first type and the power bus are deposited
3 on different layers.

1 20. (Original) The integrated circuit of claim 19, wherein the power bus exists at a lowest layer.

1 21. (Original) The integrated circuit of claim 19, wherein the power bus exists at a
2 second to lowest layer.

1 22. (Currently Amended) An integrated circuit comprising:
2 a power supply I/O pad made of a deposited conductor;
3 a power bus connected to the power supply I/O pad;
4 a data I/O pad made of a deposited conductor, wherein each of the power supply I/O and
5 data I/O pads has a pad area allocated for it, wherein the power supply I/O pad occupies
6 its allocated pad area but the data I/O pad occupies less than its allocated pad area, and;
7 circuitry connected to the data I/O pad; and
8 a strip of deposited conductor located alongside ~~substantially adjacent to~~ the data I/O pad
9 in an unoccupied part of its allocated pad area wherein the strip of ~~deposited conductor is~~
10 connected to multiple points on the power bus, and wherein the data I/O pad is narrower
11 than the power supply I/O pad ~~so as in order to allow space~~ make room for the strip.

1 23. (Original) The integrated circuit of claim 22, wherein the power bus provides
2 power to a core circuitry.

1 24. (Original) The integrated circuit of claim 22, wherein the power bus is configured as an

2 intersecting grid of a deposited conductor.

1 25. (Original) The integrated circuit of claim 22, wherein the integrated circuit is comprised
2 of multiple metal layers, and wherein the power supply I/O pad and the power bus are
3 deposited on different layers.

1 26. (Previously Presented) The integrated circuit of claim 25, wherein the power bus exists at the
2 lowest layer.

1 27. (Original) The integrated circuit of claim 25, wherein the power bus exists at the
2 second to the lowest layer.

1 28. (Currently Amended) An integrated circuit comprising:
2 a power supply I/O pad made of a deposited conductor;
3 a power bus connected to the power supply I/O pad;
4 a multi-level voltage I/O pad made of a deposited conductor, wherein each of the power
5 supply I/O and multi-level voltage I/O pads has a pad area allocated for it, wherein the power
6 supply I/O pad occupies its allocated pad area but the multi-level voltage I/O pad occupies less
7 than its allocated pad area, and;
8 circuitry connected to the multi-level voltage I/O pad; and
9 a strip of deposited conductor located alongside~~substantially adjacent to~~ the multi-level
10 voltage I/O pad in an unoccupied part of its allocated pad area wherein the strip of deposited
11 conductor is connected to multiple points on the power bus, and wherein the multi-level voltage
12 I/O pad is narrower than the power supply I/O pad ~~so as in order to allow space~~ make room for the
13 strip.

1 29. (Original) The integrated circuit of claim 28, wherein the power bus provides
2 power to a core circuitry.

1 30. (Original) The integrated circuit of claim 28, wherein the power bus is configured as
2 an intersecting grid of a deposited conductor.

1 31. (Original) The integrated circuit of claim 28, wherein the integrated circuit is
2 comprised of multiple metal layers, and wherein the power supply I/O pad and the power
3 bus are deposited on different layers.

1 32. (Currently Amended) The integrated circuit of claim 31, wherein the power bus
2 exists at the lowest layer.

1 33. (Original) The integrated circuit of claim 31, wherein the power bus exists at the
2 second to the lowest layer.

1 34. (Currently Amended) An integrated circuit comprising:

2 a positive power supply I/O pad made of a deposited conductor;

3 a positive power bus connected to the positive power supply I/O pad;

4 a negative power supply I/O pad made of a deposited conductor;

5 a negative power bus connected to the negative power supply I/O pad;

6 a data or multi-level voltage I/O pad made of a deposited conductor, wherein each of the
7 positive and negative power supply I/O pads and data or multi-level voltage I/O pads has a pad
8 area allocated for it, wherein each of the positive and negative power supply I/O pads occupies
9 its allocated pad area but the data or multi-level voltage I/O pad occupies less than its allocated
10 pad area;

11 circuitry connected to the data or multi-level voltage I/O pad;

12 a first strip of deposited conductor ~~substantially adjacent~~ located alongside to the data or
13 multi-level voltage I/O pad in an unoccupied part of its allocated pad area, wherein the first strip of
14 ~~deposited conductor~~ is connected to multiple points on the positive power bus; and

15 a second strip of deposited conductor ~~substantially adjacent~~ located alongside to the data or
16 multi-level voltage I/O pad, wherein the second strip of ~~deposited conductor~~ is connected to
17 multiple points on the negative power bus, and wherein the data or multi-level voltage I/O pad is
18 narrower than the power supply I/O pad ~~so as in order to allow space~~ make room for the first and
19 second strips, respectively.

- 1 35. (Original) The integrated circuit of claim 34, wherein the power buses provide
2 positive and negative power to a core circuitry.
- 1 36. (Original) The integrated circuit of claim 34, wherein the power buses are
2 configured as intersecting grids of a deposited conductor.
- 1 37. (Original) The integrated circuit of claim 34, wherein the integrated circuit is comprised
2 of multiple metal layers, and wherein the positive and negative power buses are deposited
3 on third and fourth layers, respectively.
- 1 38. (Original) The integrated circuit of claim 34, wherein the integrated circuit is comprised
2 of multiple metal layers, and wherein the positive and negative power supply I/O pads are
3 deposited on a first and second layer, respectively.
- 1 39. (Original) The integrated circuit of claim 38, wherein the first and second layers are the same
2 layer.
- 1 40. (Original) The integrated circuit of claim 38, wherein the negative power bus exists at
2 the lowest layer.
- 1 41. (Original) The integrated circuit of claim 38, wherein the positive power bus exists
2 at the lowest layer.
- 1 42. (Original) The integrated circuit of claim 38, wherein the negative power bus exists
2 at the second lowest layer.
- 1 43. (Original) The integrated circuit of claim 38, wherein the negative and positive
2 power buses are further deposited on a fifth and sixth layer.
- 1 44. (Original) The integrated circuit of claim 38, wherein the positive power bus exists at
2 the second lowest layer.

1 45. (Original) The integrated circuit of claim 44, wherein the negative power bus exists
2 at the third lowest layer.

1 46. (Original) The integrated circuit of claim 44, wherein the positive power bus exists
2 at the third lowest layer.

1 47. (Original) The integrated circuit of claim 44, wherein the negative power bus exists
2 at the fourth lowest layer.

1 48. (Original) The integrated circuit of claim 44, wherein the positive power bus exists at the
2 fourth lowest layer.

1 49. (Previously Presented) The integrated circuit of claims 6, wherein the power bus is
2 configured as an intersecting grid of a deposited conductor.

1 50. (Previously Presented) The integrated circuit of claims 9, wherein the power bus is
2 configured as an intersecting grid of a deposited conductor.

1 51. (Previously Presented) The integrated circuit of claims 13, wherein the power bus is
2 configured as an intersecting grid of a deposited conductor.

1 52. (Previously Presented) The integrated circuit of claims 16, wherein the power bus is
2 configured as an intersecting grid of a deposited conductor.

1 53. (New) A method for configuring an integrated circuit, comprising:
2 forming core logic on an integrated circuit;
3 forming on the integrated circuit one or more power buses for carrying power to at least
4 one part of the core logic;
5 allocating a pad area on the integrated circuit for each of a plurality of pads which include
6 one or more power pads for supplying power to the power buses and one or more I/O

7 (input/output) pads for connection to one or more other parts of the core logic;
8 forming on the integrated circuit the plurality of pads of which each power pad is
9 configured to substantially occupy the pad area allocated for it and each I/O pad is configured to
10 occupy less than the pad area allocated for it so as to leave an unoccupied pad area;
11 forming a plurality of conductive strips each being formed in a designated one of the
12 unoccupied pad areas alongside an I/O pad;
13 forming in the integrated circuit a plurality of connection pins a number of which being
14 used for external connections to the power pads, wherein, at least in pairs, the conductive strips
15 provide parallel connections between power buses of like power so as to avoid increasing the
16 number of connection pins needed for external connections to the power pads.

1 54. (New) A method as in claim 53, wherein each I/O pad is configured as a data I/O pad or a
2 multi-level voltage I/O pad.

1 55. (New) A method as in claim 53, wherein the power is either positive or negative and each
2 of the plurality of power buses is configured as a positive power bus or a negative power bus.

1 56. (New) A method as in claim 53, wherein the power buses are formed to have a grid-type
2 configuration in which they intersect at or near the center of the core logic.